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09/872,085	06/01/2001	Joseph R. Hunt	10001579-1	3829

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EXAMINER	
RAMPURIA, SATISH	
ART UNIT	PAPER NUMBER
2124	

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5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,085

Applicant(s)

HUNT ET AL.

Examiner

Satish S. Rampuria

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/21/02, 03/11/03, 04/21/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the application filed on 06/01/2001.
2. Claims 1-33 are pending.

Information Disclosure Statement

3. An initialed and dated copy of Applicant's IDS form 1449, Paper Nos. 02, 03, and 04, is attached to the instant Office action. Extra documents (US Patent No. 6,112,237, US Patent No. 6,106,571, US Patent No. 5,657,438, and US Patent No. 4,905,138) have been provided with the application and not Information Disclosure Statement, Form PTO 1449. Therefore, the Examiner has not considered these documents.

Claim Rejections - 35 USC § 112, second paragraph

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Clarification and/or correction are required.

Regarding, claim 1, on line 7, 9, and 11 the limitations, "launching an object-oriented application", "creating and initializing a plurality of cacheable factory objects", and "creating and initializing a plurality of cache objects" it is unclear as to how these steps are related to configuring cache components.

The rejection of the base claim is necessarily incorporated into the dependent claims.

Claim Rejections - 35 USC § 101 Utility

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are non-statutory because they recite the steps of the method, representing descriptive steps of the process without a computer readable medium. Claims 1-21 thus lack the utility of the process method and are non-statutory. Claims 22-33 thus is the structure of the program and are not stored on the computer readable medium and is not clear if is executed on that environment and are non-statutory.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-6, 12-14, 16, 19, 20, 22-29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,943,497 to Bohrer et al., hereinafter called Bohrer, in view of US Patent No. 6,438,743 to Boehm et al., hereinafter called Boehm.

Per claims 1, 4, 12, and 19:

Bohrer disclose:

- A method for run-time configurable caching of component factories (col. 2, lines 24-27
“an object-oriented mechanism is disclosed that allows new configuration data to replace existing configuration data within an existing object-oriented program”)
- launching an object-oriented application. It is inherent to launch the object-oriented application to work with objects.
- assigning one or more cache objects of the plurality of cache objects to one or more cacheable factory objects of the plurality of cacheable factory objects (col. 9, lines 46-50
“the NamingService object 540 uses a cache memory to quickly access the most recently accessed configuration data objects. If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”);

Bohrer does not explicitly disclose creating and initializing a plurality of cacheable factory objects; creating and initializing a plurality of cache objects; manipulating one or more objects contained in the plurality of cache objects.

However, Boehm discloses in an analogous computer system creating and initializing a plurality of cacheable factory objects (col. 3, lines 21-22 “present invention supports the creation and caching of identification files”); creating and initializing a plurality of cache objects (col. 3, lines 21-22 “present invention supports the creation and caching of identification files”); manipulating one or more objects contained in the plurality of cache objects (col. 6, lines 61-62 “manipulate and maintain the network caches outside the build process”).

Art Unit: 2124

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of creating and initializing a plurality of cache objects and manipulating objects to maintain cache as taught by Boehm into the method of caching of components of factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to use the cache objects and manipulating to optimize the development environment as suggested by Boehm (col. 2, lines 14-32).

Per claims 2 and 13:

The rejection of claim 1 is incorporated, and further, Bohrer does not explicitly disclose the plurality of cache objects contain a plurality of methods to add an object to a cache, remove an object from the cache, and find an object in the cache.

However, Boehm discloses in an analogous computer system the plurality of cache objects contain a plurality of methods to add an object to a cache, remove an object from the cache, and find an object in the cache (col. 5, lines 56-58 “building a software system using cacheable items... includes a build list creation step..., a network cache load..., a build program... and a network cache maintenance and update (add an object, remove an object, and find an object) step”)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of updating the cache objects as taught by Boehm into the method of caching of components of factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to

use the cache objects and manipulating to optimize the development environment as suggested by Boehm (col. 2, lines 14-32).

Per claim 3:

The rejection of claim 1 is incorporated, and further, Bohrer disclose:

- wherein the plurality of cacheable factory objects contain a plurality of methods to get an object from a cache, and to couple a cache object to a cacheable factory object (col. 9, lines 47-50 “If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”)

Per claim 5:

The rejection of claim 4 is incorporated, and further, Bohrer does not explicitly disclose the plurality of factory objects contain a plurality of methods to create an object, obtain an object identifier, and get a database connection object.

However, Boehm discloses in an analogous computer system the plurality of factory objects contain a plurality of methods to create an object, obtain an object identifier, and get a database connection object (col. 3, lines 1-2 “identification and searching the network caches and creating the links to cached source and objects files”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of create an object and obtain an identifier linking to an object in database as taught by Boehm into the method of caching of components of

Art Unit: 2124

factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to create cache objects and obtain an identifier linking to an object in database to optimize the development environment as suggested by Boehm (col. 2, lines 14-32).

Per claim 6:

The rejection of claim 4 is incorporated, and further, Bohrer does not explicitly disclose:

- the plurality of factory objects and the plurality of cache objects derive from a common base object (col. 9, lines 46-50 “NamingService object 540 uses a cache memory to quickly access the most recently accessed configuration data objects. If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”)

Per claims 14 and 16:

The rejection of claim 13 is incorporated, and further, Bohrer disclose:

- the application sending a message to a cacheable factory object of the plurality of cacheable factory objects to add the one or more objects to the cache object coupled to the cacheable factory object (col. 9, lines 47-50 “If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”)
- the cacheable factory object receiving the message and sending a message to the cache object to add the one or more objects to the cache coupled to the cache object (col. 9,

lines 47-50 “If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”)

Per claim 20:

The rejection of claim 13 is incorporated, and further, Bohrer disclose:

- the application sending a message to a cacheable factory object of the plurality of cacheable factory objects to locate the one or more objects located in a cache object coupled to the cacheable factory object (col. 9, lines 47-50 “If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”);
- the cacheable factory object sending a message to the cache object determining whether any of the one or more objects are contained in the cache object (col. 9, lines 47-50 “If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object” and col. 7, lines 62-65 “The factory would recognize the container ID and transfer control to the persistent container object”);

Bohrer does not explicitly disclose if able to locate the one or more objects, the cache object returning any of the one or more objects contained in the cache object; and if unable to locate the one or more objects, the cacheable factory object accessing the one or more objects from a database, and adding the one or more objects to the cache object.

However, Boehm discloses in an analogous computer system if able to locate the one or more objects, the cache object returning any of the one or more objects contained in the cache object (col. 9, lines 16-23 “if there is a copy of a source file stored in the source file cache... the source file handler creates a link... build list source file name to cache link name and cache address of... source file... places... link ... in the user directory structure”); and if unable to locate the one or more objects, the cacheable factory object accessing the one or more objects from a database, and adding the one or more objects to the cache object (col. 9, lines 24-33 “if the source file handler does not find a file having the cache link name in the network source file cache... source file handler checks out a copy of the source file from... library... renames...copies the renamed file in to the proper network cache... ”)

The feature of locating cache objects would be obvious for the reasons set forth in the rejection of claim 1.

Per claims 22 and 27:

Bohrer disclose:

- one or more cacheable factory objects, derived from the one or more factory objects (col. 9, lines 45-47 “NamingService object 540 uses a cache memory to quickly access the most recently accessed configuration data objects”)
- one or more factory objects, coupled to an object-oriented application. It is inherent to have objects in object-oriented application to work with objects.

Bohrer does not explicitly disclose cache objects, coupled to the cacheable factory objects.

However, Boehm discloses in an analogous computer system the cache objects, coupled to the cacheable factory objects (col. 4, lines 41-42 “When searching the cached to locate... object file to create a link”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of coupling the cache objects by creating a link to objects as taught by Boehm into the method of caching of components of factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to couple the objects to optimize the development environment as suggested by Boehm (col. 2, lines 14-32).

Per claim 23:

The rejection of claim 22 is incorporated, and further, Bohrer does not explicitly disclose the object-oriented application interacts with the plurality of cacheable factory objects in order to manipulate one or more objects contained in the plurality of cache objects.

However, Boehm discloses in an analogous computer system manipulating one or more objects contained in the plurality of cache objects (col. 6, lines 61-62 “manipulate and maintain the network caches outside the build process”).

The feature of coupling cache objects would be obvious for the reasons set forth in the rejection of claim 22.

Per claim 24:

The rejection of claim 22 is incorporated, and further, Bohrer disclose:

- a plurality of objects contained in the one or more cache objects can be uniquely identified (col. 7, lines 49-50 “a container ID, which is a unique string indicating the types of support”)

Per claim 25:

The rejection of claim 22 is incorporated, and further, Bohrer does not explicitly disclose the plurality of cache objects contain a plurality of methods to add an object to a cache, remove an object from the cache, and find an object in the cache.

However, Boehm discloses in an analogous computer system the plurality of cache objects contain a plurality of methods to add an object to a cache, remove an object from the cache, and find an object in the cache (col. 5, lines 56-58 “building a software system using cacheable items... includes a build list creation step..., a network cache load..., a build program... and a network cache maintenance and update (add an object, remove an object, and find an object) step”)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of updating the cache objects as taught by Boehm into the method of caching of components of factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to use the cache objects and manipulating to optimize the development environment as suggested by Boehm (col. 2, lines 14-32).

Per claim 26:

The rejection of claim 22 is incorporated, and further, Bohrer disclose:

- wherein the plurality of cacheable factory objects contain a plurality of methods to get an object from a cache, and to couple a cache object to a cacheable factory object (col. 9, lines 47-50 “If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”)

Per claim 28:

The rejection of claim 22 is incorporated, and further, Bohrer does not explicitly disclose the plurality of factory objects contain a plurality of methods to create an object, obtain an object identifier, and get a database connection object.

However, Boehm discloses in an analogous computer system the plurality of factory objects contain a plurality of methods to create an object, obtain an object identifier, and get a database connection object (col. 3, lines 1-2 “identification and searching the network caches and creating the links to cached source and objects files”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of create an object and obtain an identifier linking to an object in database as taught by Boehm into the method of caching of components of factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to create cache objects and obtain an identifier linking to an object in database to optimize the development environment as suggested by Boehm (col. 2, lines 14-32).

Per claims 29 and 33:

The rejection of claim 4 is incorporated, and further, Bohrer does not explicitly disclose:

- the plurality of factory objects and the plurality of cache objects derive from a common base object (col. 9, lines 46-50 “NamingService object 540 uses a cache memory to quickly access the most recently accessed configuration data objects. If a factory requests a different configuration data not found in the cache, the NamingService object may then retrieve the needed configuration data from the ConfigurationData object”)

9. Claims 7-11, 15, 17, 18, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bohrer in view of US Patent No. 6,446,188 to Henderson et al., hereinafter called Henderson.

Per claims 7, 8, 30, and 31:

The rejection of claim 1 is incorporated, and further, Bohrer does not explicitly disclose the plurality of cache statistics objects contain a plurality of methods to determine the number of cache accesses, the number of times a cache access returned an empty result, the size of a cache, and a reset command.

However, Henderson discloses in an analogous computer system the plurality of cache statistics objects (col. 2, lines) contain a plurality of methods to determine the number of cache accesses (col. 3, lines 11-14 “the system comprises an object cache for caching frequently accessed memory”), the number of times a cache access returned an empty result , the size of a cache, and a reset command (col. 3, lines 7-10 “A system for dynamic memory management

maps a sparsely populated virtual address space of memory objects to a more densely populated physical address space of fixed size memory elements for use by a host processor” and col. 8, lines 13-17 “Management registers... provide... data for the DMC... registers contain information...address translation module... the management module 404... contain results of host processor commands”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of keeping track of cache as taught by Henderson into the method of caching of components of factory objects as taught by Bohrer. The modification would be obvious because of one of ordinary skill in the art would be motivated to keep track of cache to manage systems require memory resources as suggested by Henderson (col. 2, lines 42-65).

Per claims 9 and 32:

The rejection of claim 7 is incorporated, and further, Bohrer does not explicitly disclose the plurality of cache configuration objects contain a plurality of methods to empty a cache, set and get a maximum cache size, and set and get the cache type.

However, Henderson discloses in an analogous computer system the plurality of cache configuration objects contain a plurality of methods to empty a cache (col. 8, lines 21-22 “the number of free entries in the management table cache”) set and get a maximum cache size (col. 8, lines 19-20 “The permanent registers 512 contain information such as the maximum size of a memory object”), and set and get the cache type (col. 8, lines 23-24 “a pointer to the next free entry in the management table cache”).

The feature of accessing cache would be obvious for the reasons set forth in the rejection of claims 7 and 8, respectively.

Per claims 10 and 17:

The rejection of claims 1 and 16 is incorporated, respectively, and further, neither Bohrer nor Boehm explicitly disclose setting a cache type for each cache object of the plurality of cache objects; and setting a maximum size for the number of objects contained in each cache object of the plurality of cache.

However, Henderson discloses in an analogous computer system setting a cache type for each cache object of the plurality of cache objects (col. 8, lines 41-43 “The initialize process sets the DMC (Dynamic Memory Cache) and associated private memory to a known state” and col. 7, lines 35-36 “The object cache 406 provides a fast local memory used to store frequently accessed memory element data”); and setting a maximum size for the number of objects contained in each cache object of the plurality of cache objects (col. 7, lines 63-65 “FIG. 5 also shows an example of three dynamically allocated memory objects of varying size added after DMC initialization”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of setting cache type and setting a maximum size for the number of object as taught by Henderson into the method of caching of components of factory objects as taught by the combination system of Bohrer and Boehm. The modification would be obvious because of one of ordinary skill in the art would be motivated to keep track of

Art Unit: 2124

cache to manage systems require memory resources as suggested by Henderson (col. 2, lines 42-65).

Per claims 11, 15, and 18:

The rejection of claim 10 is incorporated, and further, neither Bohrer nor Boehm explicitly disclose the cache type for each cache object of the plurality of cache objects determines how each object in the cache is removed from the cache.

However, Henderson discloses in an analogous computer system the cache type for each cache object of the plurality of cache objects determines how each object in the cache is removed from the cache (col. 8, lines 45-48 "The release process verifies that the dynamic memory release is valid and frees resources, removes memory objects, and updates status").

The feature of accessing cache would be obvious for the reasons set forth in the rejection of claim 10.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to further show the state of the art with respect to ***.

US Patent No. 6,725,333 to Degenaro et al.

US Patent No. 6,195,791 to Carlson et al.

US Patent No. 6,128,627 to Mattis et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satish S. Rampuria whose telephone number is 703-305-8891. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria

Patent Examiner

Art Unit 2124

05/17/2004



TODD INGBERG
PRIMARY EXAMINER